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Seat Belts on School Buses -- May 2006

Introduction

The National Highway Traffic Safety Administration (NHTSA) establishes Federal motor vehicle safety standards to reduce the number of fatalities and injuries from motor vehicle crashes, including crashes involving school buses. NHTSA requires all new school buses to meet safety standards in addition to those that apply to all other passenger motor vehicles. These include requirements for improved emergency exits, roof structure, seating and fuel systems, and bus body joint integrity. NHTSA also works with each State on school bus safety and occupant protection programs. School bus safety is one of our highest priorities.

The following are NHTSA's answers to often-asked questions about seat belts on large (over 10,000 lb GVWR) school buses.

How safe are school buses compared to all other motor vehicles?

School buses are one of the safest forms of transportation in the United States. More than 42,000 people are killed in traffic crashes on U.S. roads every year. Every year, approximately 450,000 public school buses travel about 4.3 billion miles to transport 23.5 million children to and from school and school-related activities. Yet, on average, every year, six school age children (throughout the U.S.) die in school bus crashes as passengers. NHTSA strives to ensure that there are no fatalities in school buses.

We have seat belts in passenger cars. Why don't we have them on school buses?

Seat belts have been required on passenger cars since 1968. Forty-nine States and the District of Columbia have enacted laws requiring the wearing of seat belts in passenger cars and light trucks. There is no question that seat belts play an important role in keeping occupants safe in these vehicles, however school buses are different by design and use a different kind of safety restraint system that works extremely well.

Large school buses are heavier and distribute crash forces differently than do passenger cars and light trucks. Because of these differences, the crash forces experienced by occupants of buses are much less than that experienced by occupants of passenger cars, light trucks or vans. NHTSA decided that the best way to provide crash protection to passengers of large school buses is through a concept called "compartmentalization." This requires that the interior of large buses provide occupant protection such that children are protected without the need to buckle-up. Through compartmentalization, occupant crash protection is provided by a protective envelope consisting of strong, closely-spaced seats that have energy-absorbing seat backs.

Small school buses (with a gross vehicle weight rating of 10,000 pounds or less) must be equipped with lap and/or lap/shoulder belts at all designated seating positions. Since the sizes and weights of small school buses are closer to those of passenger cars and trucks, seat belts in those vehicles are necessary to provide occupant protection.

School bus crash data show that compartmentalization has been effective at protecting school bus passengers. NHTSA's 2002 Report to Congress^[1] found that the addition of lap belts did not improve occupant protection for the severe frontal impacts that were studied for that report.

The National Transportation Safety Board (NTSB) and the National Academy of Sciences (NAS) have come to similar conclusions. The NTSB concluded in a 1987 study of school bus crashes that most fatalities and injuries occurred because the occupant seating positions were in direct line with the crash forces.^[2] NTSB stated that seat belts would not have prevented most of the serious injuries and fatalities from occurring in school bus crashes. In 1989, the NAS completed a study of ways to improve school bus safety and concluded that the overall potential benefits of requiring seat belts on large school buses were insufficient to justify a Federal mandate for installation.^[3] NAS also stated that the funds used to purchase and maintain seat belts might be better spent on other school bus safety programs and devices that could save

more lives and reduce more injuries.

Can States or school districts purchase large school buses that have seat belts?

States or school districts are not prohibited by the federal government from purchasing seat belts at any passenger seating position in large public school buses. Over the past 30 years, some States have required new large school buses to come equipped with seat belts. There have been no documented injuries or fatalities resulting from use of the seat belts on school buses.[4] However, States should take into consideration the increased capital costs, reduced seating capacities, and other unintended consequences associated with seat belts that could result in more children seeking alternative means of traveling to and from school or school-related events. These alternative modes of travel could put children at greater risk because they are not nearly as safe as school buses. If seat belts are to be beneficial, States that require them on school buses should ensure that the belts are worn properly by all school bus passengers.

How safe are school buses compared to other motor vehicles?

School buses are approximately seven times safer than passenger cars or light trucks. The school bus occupant fatality rate of 0.2 fatalities per 100 million vehicle miles traveled (VMT) is considerably lower than the fatality rates for passenger cars or light trucks (1.44 per 100 million VMT). The relative safety of school buses was addressed in 2002 by the National Academy of Sciences (NAS) in "The Relative Risks of School Travel: A National Perspective and Guidance for Local Community Risk Assessment." [5] It found that there are about 815 fatalities related to school transportation per year. Only 2 percent are associated with official school transportation, compared to 22 percent due to walking/bicycling to or from school, and 75 percent from passenger car transportation to or from school.

What is the cause of most school bus-related fatalities?

Pedestrian fatalities account for the highest number of school bus-related fatalities. There are about 17 such fatalities per year, two-thirds of which involve the school bus itself and the rest involving motorists illegally passing the stopped school bus. In its 1989 report, the NAS stated that since children are at "greater risk of being killed in school bus loading zones (i.e., boarding and leaving the bus) than in the bus, a larger share of the school bus safety effort should be directed to improving the safety of school bus loading zones." NHTSA agrees with the NAS that States and localities should focus their efforts toward improving school bus loading zones.

[1] School Bus Safety: Crashworthiness Research, National Highway Traffic Safety Administration, April 2002.

[2] Crashworthiness of Large Poststandard School Buses, National Transportation Safety Board, March 1987.

[3] Transportation Research Board of the National Academies, Special Report 222, Improving School Bus Safety, 1989.

[4] State law governs the use of seat belts on vehicles. We have no data on the extent to which States require use of lap belts (if provided) on school buses or enforce the proper use of the belts.

[5] Transportation Research Board of the National Academies, Special Report 269, June 2002.